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Electroactive carbon-paste electrode for use in analysis of chromium(III)

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Abstract

A method for selective analysis of Cr(III) based on extraction of chromium 8-hydroxyquinolinate into molten naphthalene and the use of an electroactive carbon-paste electrode is described. In the anodic voltammogram Cr(III) develops a peak at EP = -0.65 V (relative to a saturated calomel electrode) with its intensity proportional to the Cr(III) concentration within the range of 5 × 10-9 - 2 × 10-6 M. Metal ions that interfere with selective determination of Cr(III) are removed by extraction of their complexed forms into chloroform. Results for Cr(III) analyzed in underground waters of the industrial zone of a chemical plant are presented.